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ABSTRACT

The major interest of this study is the amount of time children spend reading. Data was gathered unobtrusively by having the 150 5th grade subjects keep time records of all their activities for a 2 week period. These were coded into 7 categories and scores were related to those derived from tests of ability, achievement, self-concept and reading attitudes, as well as to the sex, family position, and socioeconomic background of each child. The 7 categories into which children's time usage was coded were: (1) sleep; (2) reading; (3) homework; (4) TV; (5) chores; (6) organized activity; and (7) free play. Two prominent findings are that children spend the largest amount of time watching television and relatively rarely do they read. In general, analyses show significant relations between time scores and sex, socioeconomic status, family size, self-concept, IQ, and reading attitude scores. The authors caution that all analyses are correlational, however, and preclude causal interpretations. (Author/TL)

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Children's Use of Time: Some Personal and Social Correlates

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The work of Barker and Wright (1951, 1955) has suggested the value of observational studies of children in natural settings in order to gain a better understanding of the relation between environment and behavior. When methods are extended so that day-to-day records of the behavior of reasonably large samples of children are kept, analyses of such data in relation to other indicies provide information about the behavioral correlates of demographic and psychological variables. Such studies essentially employ a multivariate. correlational design and would seem an important kind of initial study, from which testable hypotheses for later field or laboratory experiments could derive.

This general approach has been followed in this study, except that instead of an experimenter's observation of behavior, the data (time records of day-to-day activities) are derived from the children's self-reports. Time diaries summarizing the activities of children have been used by a number of investigators in England (Smally, 1958; Curr, Hallsworth, and Wilkinson, 1962, 1964, for example) but have been little used in the United States, except in relation to studies of television viewing (see Schramm, Lyle, & Parker, 1961). One question which arises is the extent to which one may trust the reliability and validity of the children's records. Another problem is that samples are necessarily limited to children who are reasonably literate and sufficiently interested to keep complete records.

Our chief interest was in time spent reading, and this study comprises one part of a larger study related to the independent reading of fifth graders. In order to measure unobstrusively the amount of time spent reading during a two-week period, records of all spare-time activities were secured. These were coded into seven categories and scores were related to those derived from

CG 006 604

tests of ability, achievement, self-concept and attitude as well as to the sex, family position, and socioeconomic background of the child. The study was exploratory in the sense that no advance hypotheses were proposed.

Method

Subjects.

Subjects (75 boys and 75 girls) were white fifth-graders who (1) were present on all testing days, (2) could read at grade level or above according to the comprehension score of the Gates McGinitie Reading Survey D, and (3) kept complete and legible time records. All fifth graders in two schools in a suburban community near an industrial city were included in all phases of the study. The final sample was selected after all data were collected on the basis of the three criteria listed above and in order to provide the maximum size sample balanced as to sex.

Ss were aged nine to eleven. 80% were between their tenth and eleventh birthdays. Socioeconomic status was assessed by means of coding the chief earner's occupation on Hollinghead's Occupational Scale. This scale ranged from one (major professional and owners of large businesses) to seven (unskilled labor and unemployed). Table 1 presents the distribution of the boys and girls and both combined over these categories. It may be seen that Ss were distributed fairly evenly over the seven categories except for an over-representation in category one and an underrepresentation in category seven. 65% of the sample were in categories one through four (mainly white collar jobs) while the other 35% were in categories five through seven (blue collar jobs).

Insert Table 1 about here

IQ's ranged from 85 to 130 with a mean of 107.8. Boys and girls did not

differ significantly on any of the measures or background factors with the exception of scores for egocentricity and attitude toward reading, where in each case girls had higher scores at the .05 level.

Procedure.

Time records. Time records were kept over a two-week (14 day) period. Booklets consisting of sheets for each day marked off in a double column grid for the twenty-four hours were distributed to all children. They were given about ten minutes each morning and each afternoon to fill in the blanks indicating how they had spent their time. Standard instructions, which emphasized the importance of neatness and accuracy, assured anomynity, and suggested the usefulness of the records not only for the research project but also for learning about yourself were used.

For time not spent in school, the time records were coded with fifteen minute units into the following seven categories: sleeping, reading, homework, organized activities, television, chores, and free play. The number of units for each category were summed for each subject and transformed into hours.

Tests. A series of group testing sessions were held at the schools to administer the following instruments: Otis Quidk-Scoring Mental Ability Test, Gates-McGinitie Reading Survey, Self-Social Symbols Tasks, and a test of reading attitude. The self-social symbols test is a non-verbal instrument which has 56 items providing the following twelve self-concept scores: esteem, social interest, individuation, power, egocentricity, complexity, and six identification items which involve . inclusiveness of others in a group with the self, and self-other distances from mother, father, teacher and friend. The reading attitude scale was a Likert-type scale comprised of 25 statements pro or con reading. Ss used a five-point scale to indicate agreement or disagreement; scores were summed over items to provide a total score.

Background information. Ss also provided father's and mother's occupation and names and ages of brothers and sisters.

Results

In order to test inter-coder reliability, 75 of the time records were independently coded by two raters, whose scores were then correlated. These coefficients (Table 2) ranged from .75 to .97 (median .93) for the seven categories.

Internal consistency reliability was assessed for these records by scoring separately for the first and second weeks and correlating the scores. These coefficients, corrected for length, for the seven categories ranged from .66 to .88 (median .79).

Insert Table 2 about here

Evidence supporting validity of the score for time spent reading was found (1) in a positive relation between this score and number of books taken from the school library during a six-week period earlier in the school year ($r = +.34$, $p = .001$), and (2) a positive relation ($r = +.31$, $p = .001$) between time spent reading and attitude toward reading.

Mean scores for each category of the time records for boys and girls and both combined are shown in Table 3. It may be seen that besides sleep the most popular activity was watching television with an average of 30.3 hours or about 15 hours per week. The next highest category was free play which occupied about 10 hours a week, followed by organized activity and homework, each about four hours a week. Chores and reading each took less than two hours a week. It should be noted that about one-third of the sample (47 out of 150) reported no reading during the two-week period.

Differences between boys and girls for each of the seven scores were

tested with t tests (Table 3). These showed a significant difference for four of the seven and a trend (p = .10) for a fifth. Boys were significantly lower for chores and organized activity, significantly higher for television and free play and tended to sleep less.

Insert Table 3 about here

Time scores were correlated with each other and with all other scores for the total sample and for the boys and girls separately. These analyses revealed the following significant (p = .05 or better, two-tailed test) effects:

1. In the total sample, time spent watching television and in free play were negatively related to all other activities, including sleep. These relations were partly a function of sex differences and were thus less strong when tested separately among the boys and girls. Among the boys TV was negatively related to free play, reading, sleep and organized activity and free play to reading and sleep. For the girls, TV was negatively related to free play and homework, and free play to homework and organized activities.

2. Time spent reading was positively related to SES (+.19), IQ (+.26), and all four scores from the Gates test (+.18 to +.22), all of which were also related to each other. IQ and SES and achievement scores were not significantly related to any of the other time scores, except that the Gates score for reading comprehension was negatively related to free play (-.26) among the boys.

3. Family patterns were related to several time scores, but these relations were different for the two sexes. For the boys, number of sisters was negatively related to amount of sleep (-.24), and birth order was positively related to free play (+.24). For the girls, birth order and number of sisters were related to each other and to time spent watching television (+.24, +.25), and number of siblings was positively related to time spent at chores (+.23).

4. Self-concept scores were related to time scores but these relations were complex and different for the two sexes. Boys who perceived the self as closer to father spent more time at homework (+.27) and less time reading (-.28). Boys with a less complex self-concept also spent more time at homework (-.25) and more time at chores (-.23). Boys who are high on egocentricity were also high on sleep (+.26). For the girls, more time spent reading was related to lower esteem (-.26), greater inclusiveness (+.24) and a closer relation to friend (+.24). Greater individuation was associated with less time spent on homework (-.29). For the sample as a whole, positive relations were found between homework and inclusiveness (+.17) and between individuation and organized activity (+.19) and a negative relation between egocentricity and television (-.16).

Discussion

Taken as a whole, the number of significant relations between the time measures and background and test variables were greater than expected by chance. While the correlational nature of these analyses precludes casual interpretations, one can conclude that the use of time among these fifth graders was related to their background, attitudes, abilities and self-concepts.

One prominent finding is the relative pervasiveness of watching television. Our overall mean of about 15 hours a week appears to be somewhat higher than the 11 to 13 hours a week reported for the "viewers" (aged 10 to 11 and 13 to 14) of Himmelweist, Oppenhein, and Vince (1958) in England, but to be somewhat less than the 18.5 hours a week reported by Battin (1952) about 20 years ago among an American sample (all of whom had a television set) in grades one to six. The sex differences found in this study for watching television replicate those found by Bailyn (1959) although this study did not repeat her findings relating viewing to SES and ability.

Besides differing in amount of time spent watching television, the boys and girls in this study also differed in time spent in chores, free play and

organized activities. Greater time in chores for girls was also found among English children by both Smalley (1958) and Curr et al (1962). The 2:1 ratio found by the Curr group is similar to that found here. This similarity across cultures and time supports the generality and stability of sex roles for children. This finding also suggests either that these suburban parents treat their ten-year-old children of different sex unequally in this respect, or that girls conform more to parental demands, since it would be difficult to believe that girls had a greater natural liking than boys for chores.

Altogether, with more time invested in chores and organized activities, and therefore less time for free play and TV, the girls appear to lead a more constricted life than do the boys. Whether the constriction in relation to organized activities is imposed by cultural norms for sex roles, or comes about because more organized activities are available for girls of this age and locale, or because of a greater tendency in the girls themselves to prefer these activities cannot be determined by the present data and is thus a question for future study.

The findings related to family patterns are complex and different for the two sexes, but seem to suggest that being a later-born child involves more freedom than that experienced by an earlier born. (Later-born boys had more free play, later-born girls more TV). For the girls, however, larger families were also associated with more chores, although more sisters were related to more TV.

The findings related to reading lead to a number of conclusions. The first is the relative rarity of this activity (on the average an hour and a half a week). Second, it is interesting to note that time spent reading is a sensitive index, related to the greatest number of other non-time variables, in spite of its reduced variability due to the pile-up of scores at zero. It is perhaps not surprising to find time spent reading to be associated with number of books taken from library, favorable attitudes toward reading, and

higher socioeconomic class, ability and achievement scores. These variables form a cluster, which may derive from experiences in a middle class environment in early childhood.

So far as self-concept is concerned, among the girls, more reading is associated with lower esteem, but a greater social dependency, as indicated by greater inclusiveness and a closer relation to friend. For the boys, on the other hand, the only self-concept score related to reading is the self-father score, where a more distant relationship was associated with more reading. If reading is considered a feminine activity in the American culture, these findings seem reasonable.

All the relations between time scores and other variables might be stronger and would definitely be more generalizable if a more heterogeneous sample could have been used. As noted earlier, however, such a limitation is inherent in this method, since one can only include children who can carry out the experimental task.

Within this group of achieving children, however, the time scores seem to be reasonably reliable in that they are consistent between the first and second week. The findings relating these scores to other variables, particularly those related to sex, supply evidence which adds meaning to the scores and supports their validity. This method thus seems promising for use in other settings and in relation to other variables.

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TABLE 1

Frequency distribution of socioeconomic level of chief earner's occupation (Hollingshead's Scale)

	Occupational Level							
	1	2	3	4	5	6	7	Total
Boys	15	7	10	17	14	10	2	75
Girls	17	12	13	7	9	15	2	75
Total	32	19	23	24	23	25	4	150

TABLE 2

Inter-coder and split-half reliability coefficients for the seven categories of time scores. (N=75)

	Reliability Coefficients	
	Inter-coder	Split-half[1]
Sleep	.73	.84
Reading	.95	.66
Television	.97	.88
Homework	.95	.73
Chores	.87	.79
Organized Activities	.80	.77
Free Play	.93	.86

1. corrected for length.

TABLE 3

Means and tests of significance for boys and girls for number of hours in each activity for a two-week period.

Activity	Total N = 150	Boys N = 75	Girls N = 75	t	p
Sleep	123.1	121.9	124.4	1.72	.10
Reading	3.1	3.0	3.2		ns
Television	30.3	33.0	7.6	2.44	.02
Homework	7.7	7.0	8.5		ns
Chores	2.4	1.5	3.2	3.41	.001
Organized Activity	8.3	6.4	10.2	4.08	.001
Free Play	20.0	24.4	15.6	4.19	.001